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Trip Report - 1959 IRE National Convention

1. On 23 and 24 March 1959 the writer attended the IRE National Convention in New York City. The purpose of the visit was to attend Session 5, "Management Techniques" on Monday afternoon, Session 13, "Engineering Management - II" on Tuesday and visit microphone manufacturer's display booths. Session 5 and 13 were selected because of the importance of sound management employment in our daily routine of external projects engineering. The microphone investigation was inspired by a pending SP requirement for development of a special ultrasonic microphone system.

2. Session 5 - The title of the first talk was "Marketing Factors in Research and Development" and was presented by Harrison M. Rainie, Jr. of Stewart, Dougall and Associates, New York, New York. Mr. Rainie stressed the point of planning toward clear cut goals to prevent over engineering or building a Cadillac when all that is needed and truly wanted by the consumer is a Ford. It was noted that marketing shares responsibility equally with engineering for guiding the R&D dollar. Thirty to sixty percent of new products fail because of the lack of marketing research. He proposed that long-range product planning be accomplished by a select executive group composed of or advised by both marketing and engineering. This problem of private industry is analogous to our own in that over engineering as well as lack of coordination with the field can be extremely costly, although it may not cause bankruptcy.

Marrit A. Williamson, Dean of Engineering, Pennsylvania State University, presented a thesis on the "Maximax" research and development manager. Mr. Williamson described the attributes of a good manager as opposed to those of his "maximax" R&D manager or "the one who gets most out of R&D". In describing his "maximax" R&D manager, he made two points: the first, because of the nature of R&D work, the manager who has everything running smoothly is not devoting his time to major problems. A "maximax" R&D manager does not have to be personally efficient, he might have piles of papers on his desk, a casual office routine, enjoy interruption by subordinates, and should not make immediate, dynamic decisions. The second point was that unlike the conventional manager, the R&D manager could not possibly know more about somethings than the men working for him. If he thought he did, working for him would be intolerable and personnel turnover might be disastrous.

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Mr. Casper M. Bower, Utilities and Industry Management Corporation, New York, N.Y. offered a paper on "Obtaining Capital for the Smaller Electronics Firm-Methods and Pitfalls". Mr. Bower advised small electronic firms ready for expansion because of a heavy workload yet suffering from a lack of working capital to seek private funds rather than public funds until their company reaches maturity. He went on to describe a financial position representing maturity. This discussion was not applicable to our financing arrangement.

The last speaker of the session was Mr. Edward B. Roberts, from the Sloan School of Industrial Management, Massachusetts Institute of Technology. His talk was entitled "Simulation Techniques for Understanding R&D Management". Although some might be fascinated by one interpretation of this title, it actually referred to product planning via computer simulation. A system is being developed by this group which is claimed will increase the reliability of R&D management decisions. The system is referred to as a customer-producer-product system whereby factual information is converted into electrical or mathematical logic for presentation to a computer for solution. Theoretically, this system would eliminate some of the guess work in product planning.

3. Session 13 - This session opened with a talk by Commander J. E. Clark of the Advanced Research Projects Agency located at the Pentagon. It appeared to be an attempt to justify the existence of his group amongst the many Government R&D organizations. Mr. E. G. Fubini of Airborne Instruments Laboratories took advantage of a rather captive audience to glorify his organization and handling of a classified multi-million dollar Air Force prime contract referred to as the ASD-1 or AET-1 (he had quite a foreign accent). One interesting comment concerned his answer to the government's question, "How long will it take you to complete the project?" He answered, "Just about as long as it took you to make up your mind to undertake it." Mr. H. H. Goode, Bendix Aviation Corporation, spoke on intra-company systems management. He asked for more rational and less emotional decision making in R&D. As an example of good system engineering he cited the efficiently operating telephone system and in contrast, the rather confused air traffic control system. He recommended that the lowest members of a project organization be distributed for project reports and receive them within two weeks of publication.

4. Several display booths were visited as part of an investigation undertaken to locate prospective contractors for the development of a special microphone system covering the range of 10 to 200 kHz. The Telax representative expressed the company's interest in audio work only, Sonotones ceramic microphone worked to 14 kc only, and Brush Instruments Division, Clevite Corporation, were only interested in supplying ceramic elements and suggested our contacting Chesapeake Instrument Company located in Maryland. ElectroVoice, Inc., claimed

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interest in government sponsored development in this frequency range and provided the following company contacts.

Mr. Wayne Beaverson, Technical
Mr. Louis Burroughs, Technical
Mr. Howard Durbin, Sales
Mr. Donald Snyder, Sales

Altec Lansing Corporation mentioned doing military R&D in this frequency range and advised talking to Mr. John Hilliard concerning design feasibility of ultra-sensitive systems. A representative of Massa Labs of Hingham, Massachusetts, a division of Cohu Electronics, Inc., also expressed interest in this type of development. This company is in the process of fabricating a series of microphones covering the range of 10 kc to 50 kc under sub-contract to Stoddart Aircraft Radio Company for the RS-28, Multi-Channel Relay System. The contact is Mr. Charles J. Lister, Manager Transducer Products, who is presently on loan to Massa from the parent company. In summary, those companies under consideration for further investigation are Electro-Voice, Altec-Lansing, Massa Labs, and Chesapeake Instrument Company.

5. Another attempt to locate companies working in the optical recording field proved partially successful in that Beattie Coleman, Inc., expressed some interest in development of miniature optical recording equipment. The person contacted was Mr. William S. Grossman, Manager Technical Sales.

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